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ABSTRACT

This document reports a model for restructuring secondary vocational education in Minnesota, incorporating state-specified student exit outcomes with local additions. Following an executive summary, part 1 of the document explains the principles that guided the restructuring (integration of basic and higher-order thinking skills into the curriculum; nonduplicative articulation between secondary and postsecondary programs; updating and upgrading curriculum and instructional support; equal access and equitable treatment for all students; and explicit focus on technical skills, career development, work readiness, preparation for family roles, and technological competence). Part 2 describes the background for development of the model, including Minnesota's social and economic situation and the model development process itself. Part 3 explains the model narratively and graphically, spelling out its relationship to society's needs, students' needs, exit outcomes, program outcomes, and essential program characteristics. Part 4 is an action plan for achieving the policy changes necessary to enable local education agencies to implement the model. Part 5 addresses necessary implementation processes. (CML)

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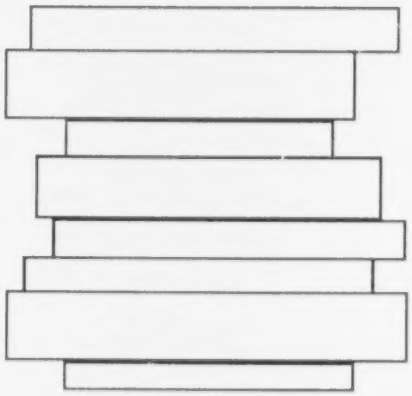
A RESTRUCTURED MODEL FOR SECONDARY VOCATIONAL EDUCATION

A REPORT SUBMITTED TO GOVERNOR RUDY PERPICH AND THE 1989 MINNESOTA STATE LEGISLATURE

by Commissioner of Education Ruth Randall



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Secondary Vocational Education Restructuring study

Commissioned by the 1988 Minnesota State Legislature

Conducted by the Minnesota Department of Education
December 1, 1988

Minnesota Department of Education

CEDS 3665

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PREFACE

In the course of this six-month effort to restructure secondary vocational education, we realized many things: First, that all of our citizens want the best for the children of Minnesota. Second, that the education system still primarily operates on long-standing traditions that dictate decisions like length of school day/year and course structure based on the university model. Third, that existing structures, policies and practices have taken on a life of their own, literally determining the goals of education. And fourth, that this opportunity to take a fresh look and stand back from standard operating systems could allow new and better ideas and possibilities to emerge.

One of the most important things we realized, however, was that significant and necessary changes could not take place without restructuring the entire education experience, not just vocational education. The scope of these changes to bring about the restructured model need to involve the larger learning environment. This belief is central to our recommendations. It is also invigorating because it will enable all those who care about the future of our children to cooperate and participate in creating the vision for all of education.

Our vision for a restructured model calls for student outcomes to drive education; this plan would mean refocusing and reorganizing the vocational education program within a significantly restructured school environment. Our vision calls for greater "wholeness" and enriched "meaning" for students' learning experiences; this plan would do away with artificial divisions between different areas of school curriculum, between learning in the school and outside the school, between thinking and doing, between enjoying and achieving. Our vision calls for students to assume greater responsibility for their school experience and, in the process, to enhance their ability to determine their future. This plan would strengthen the self-esteem of our young people because they would be valued for their unique talents and perspectives and would be encouraged to grow and develop to their fullest potential.

Thus, this report addresses a number of issues that affect all of education. The recommendations should be viewed as our perspective on some of the components needed to improve learning for all students. It is our firm hope that these interdisciplinary recommendations will be part of an ongoing dialogue that results in a better educational experience for all Minnesota students.

– The Vocational Education
Strategy Design Group
December 1, 1988
Rev. 12/9/88

ACKNOWLEDGMENTS

We gratefully acknowledge the participation of the Strategy Design Group in all phases of this project. For eighteen months, its members labored over the content and process of designing a restructured vocational education model. Their support and dedication sustained all of us.

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A RESTRUCTURED MODEL FOR SECONDARY VOCATIONAL EDUCATION

Executive Summary

PURPOSE AND INTENT:

This report is the result of the 1988 State Legislature's call for a restructured vocational education model. This model outlines a set of outcomes, essential characteristics and recommendations for actions to bring about necessary changes.

GUIDING PRINCIPLES:

Five over-riding principles guided the model's development:

Integration: inclusion of basic and higher-order thinking skills into the curriculum.
Articulation: nonduplicative transition between secondary and postsecondary programs.
Modernization: updating and upgrading curriculum and instructional support.
Equity: equal access and equitable treatment for all students.
Redirected Curriculum Priorities: explicit focus on technical skills, career development, work readiness, preparation for family roles and technological competence.

RECOMMENDATIONS:

1. **The Legislature and State Board of Education must move to an outcome-based design for all of Minnesota's students.**

   Considering the needs of students and the needs of the State, the Legislature should authorize a set of exit outcomes for Minnesota students and establish state authority to endorse program outcomes for Vocational Education. Local districts will recognize and enhance these outcomes, and will have responsibility for designing course, unit and lesson outcomes with strong teacher, parent, community and business input. The outcomes may be reached in different ways adapted to diverse student needs and interests.

2. **The Legislature and State Board of Education must remove barriers that impede achieving these goals. They should support local program design that addresses individual student needs and interests and particular local conditions.**

   New policies and rules need to be developed and some existing guidelines amended to allow flexibility in reaching outcomes. Restrictions (such as credit structure, length and timing of instruction, learning settings and licensure provisions) need to be reviewed and eased.

3. **State and local leadership must ensure the support necessary to redirect curriculum, develop supportive structures and design effective evaluation approaches.**

   Substantial changes are being recommended for curriculum and instruction, the learning process and accountability. The implementation of this model will require extensive coordination and development at state and local levels.

4. **The Legislature, State Board and local districts must implement some critical changes immediately as well as provide for the active participation of all stakeholders in a long-range restructuring of the total school experience.**

   Changes of the nature proposed need to be incorporated into the curriculum now and designed to fit a larger, long-range transformation in Minnesota's educational system. During the process of change, vocational education must be given the stability and support necessary to build and to function effectively while initiating developmental efforts to enrich all programs both on an immediate and a long-range basis. A limited number of demonstration sites needs to be selected and supported to develop, test and revise the restructured model.

5. **The Legislature must provide the necessary resources to assure implementation of the proposed restructured model.**

   Additional (special) funds are needed to address both the short-term and long-term priorities envisioned in the model. The proposed budget for the five-year implementation plan reflects the need for greater expenditures in the first two years at the state level when greater participation and emphasis will be needed for developing curricular materials and staff development. This cost will decrease as materials are completed and available. The greater number of school sites participating in the implementation plan will require greater costs in years four and five, but the actual amount per site will be reduced. Costs are expected to be associated with restructuring efforts only and the excess cost vocational categorical formula would be maintained. At the conclusion of the five-year implementation plan, it is expected that all restructuring costs for all the selected sites would be completed and the remaining districts would have the model site experiences to draw upon for statewide implementation.

LOOKING AHEAD:

A restructured model will make schools and vocational programs accountable for outcomes. It will marshal the energies of communities. It should assure that all participating students graduate with sounder basic skills, better thinking and problem solving abilities, solid technical skills and stronger personal self-esteem and career direction. Our young people will be better prepared for ongoing schooling, for work, for family roles and for lifelong learning in Minnesota's dynamic society.

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PART I

VISION FOR RESTRUCTURED VOCATIONAL EDUCATION

The Minnesota Legislature called for a restructured vocational education model to better serve the needs of Minnesota's students. Through the course of the development process that followed, a set of over-riding principles regarding the process and content of education became clear and a vision emerged for restructured vocational education. Our vision is to offer students an educational experience tailored to their needs and interests and society's needs and interests while providing the special learning environments they need to reach their particular vocational goals.

To implement our vision, we believe that some changes are critical and require immediate attention, while others need to occur in tandem with a general restructuring of the total school experience. Thus, we propose an immediate and a long-range realization of these over-riding principles, which create the cornerstones of our restructured vocational education model.

1. Education will not be terminal but, rather, will be articulated; articulation between secondary and elementary education provides necessary foundations and articulation between secondary and postsecondary education ensures appropriate preparation for occupational skills.

   Immediate: A nonduplicative transition between secondary and postsecondary programs focused on occupational skills will be possible.
   Long Range: Articulation between secondary and postsecondary programs will generally include occupational skills, liberal studies and general education.

2. Education will be modernized and relevant to students and the worlds of work and family life.

   Beginning immediately and ongoing continuously: Updating and upgrading of curriculum and instructional approaches will include equipment, learning resources and staff expertise.

3. Education will not be insular but, rather, will be integrated; basic learning skills will be integrated with higher order thinking skills.

   Immediate: Basic learning skills and higher order thinking skills will become more integral and explicit parts of all secondary vocational education.
   Long Range: The we-they division within schools will be eliminated while cooperative interdisciplinary efforts are employed to address the outcomes we desire for students.

4. Education will be equitable and accessible to all students.

   Beginning immediately and continuing until accomplished: Provisions will be made for all students to receive the treatment (curriculum and support) they need to meet their educationally-relevant needs (acknowledging that this is likely to mean unequal treatment). Equity will be afforded to all regardless of race, gender, economic class, geographic location, or handicapping condition.

5. Education will address new curricular priorities.

Beginning immediately and continuing until accomplished:
Learning opportunities will be created for all students in the following content-oriented areas:

a. Career Development: a curriculum for all students grades K through 12 will be based on developmental stages and will be integrated and articulated with other school, home and community activities.

b. Work Readiness: a curriculum for all students will include job seeking, job keeping and other employability skills, integrated with both occupational and academic education.

c. Preparation for Family Roles: a curriculum for all students will focus on the knowledge and skills needed to live successfully and happily in families and to balance work responsibilities within and outside the home.

d. Technology Competence: a curriculum for all students to use technology effectively and thoughtfully in all education and lifelong learning experiences.

e. Technical Skill: an occupational skills curriculum will be accessible to all students, but will be specifically oriented to those preparing directly for work and those preparing for future advanced skill training.

PART II

FOUNDATIONS OF RESTRUCTURING

A. BACKGROUND

Significant changes have taken place over the past several years in Minnesota workplaces and families. These changes place new demands on the knowledge and skills of persons who work within these settings. Unfortunately, the familial and community environments that formerly provided information and experience are sometimes unavailable for contemporary youth. As a result, more responsibility for preparing young people for work and family roles has been placed on school programs.

Several forces have operated to weaken the impact and effectiveness of secondary vocational education within the state's schools, e.g.:

* a mission that has not always been clearly understood and/or accepted,
* programs that sometimes have not reflected response to the changing needs of youth and society,
* increasing graduation requirements established in academic areas,
* unclear relationships existing between secondary vocational education and postsecondary programs.

In addition, total high school enrollments declined with vocational enrollments dropping proportionately. All these factors resulted in declining vocational education enrollments and program reductions.

With this background, the Minnesota Legislature called for a restructured model for the organization and delivery of secondary vocational education. This legislative action initiated a planning process that involved more than two hundred people - students, parents, teachers, administrators, counselors, community organization representatives and business people - from within and outside the vocational education community. Information gathered in a number of group meetings was examined and developed into components of the model by the Strategy Design Group. This report with its proposal for a restructured model of vocational education is the result of these efforts.

B. MINNESOTA'S SOCIAL AND ECONOMIC SITUATION

> For the balance of the 20th century and into the 21st, Minnesota will have to compete increasingly with skills and brainpower. It will not be successful as a low-skill location.
>
> ... Basic reorganization of the incentives within education is necessary to increase achievement standards to global levels. ... It implies a renewed commitment to achievement at all levels and across the board, not an evolution into a two-track system where only some students succeed.
>
> - Report of the Governor's Commission on the Economic Future of Minnesota, 1987

Major commissions and business and community organizations are calling for substantial changes in Minnesota's education system. Vocational restructuring needs to address Minnesota's social and economic development needs, as well as student needs. A summary of needs identified by commissions, community groups, employers, economic experts, labor organizations, employment and training agencies and others is referenced below and presented in the table on page 7.[1]

1. Vocational Education Enrollment Trends

Participation in vocational education programs in Minnesota declined in the mid-1980s due to a shrinking youth population, fewer course offerings and cooperative centers, increased academic requirements and limited participation by increasing percentages of students preparing for four-year colleges. Numbers declined from 111,000 in 1983-84 to 101,000 the following year, but have since held near that level. Outdated courses and equipment, duplication with postsecondary activities and lack of clear objectives for students' basic skills competency have needed attention. Surprisingly, enrollments have been dropping sharply in health and service occupations - two of the fastest growing areas of employment in Minnesota. This may illustrate the need for modernizing program offerings. On the other hand, about two-thirds of all Minnesota students take vocational education courses in grades 10-12--it remains a "mainstream" program in terms of student choice.

1. A detailed statement of needs and recommendations is available in the recent Work Readiness report issued by the Commissioner of Education's Task Force on Education and Employment. Other valuable statements have been made by the Minnesota Business Partnership (Educating Students for the 21st Century, 1984); the Committee for Economic Development (Investing in Our Children: Business and the Public Schools, 1985); the National Alliance for Business (Employment Policies: Looking to the Year 2000, 1986); and The Report of the Governor's Commission on the Economic Future of Minnesota, 1987; the William T. Grant Foundation (The Forgotten Half: Pathways to Success for America's Youth and Young Families).

MINNESOTA'S NEEDS Identified by community organizations, employers, employment and training agencies, economic commissions, labor organizations, parents, and others.	HOW THE RESTRUCTURED MODEL ADDRESSES THE NEEDS Model Characteristics
* Enable Minnesota to compete globally with higher levels of skills and brain power	* Raises basic and higher order skill requirements for vocational students * Modernizes occupational skills programs
* Strong basic skills * Strong reasoning, critical thinking skills	* Integrates basic skills, higher order skills and occupational skills
* Minimum competency levels * Mastery of skills and knowledge	* Establishes accountability through outcome-based learning
* Better approaches for managing and conserving financial and other resources	* Expands experiential learning through community experiences, entrepreneurial projects and youth organizations. * Focuses some curriculum toward preparing for family roles
* Ability to apply skills and knowledge * Ability to work cooperatively; participatory management	* Expands experiential learning, including employers and community
* Improved decision making and nurturing skills in parenting and family relationships	* Focuses some curriculum toward preparing for family roles * Employs opportunities to apply learnings to present and future life experiences
* Comprehensive grasp of science and technology; increase capability to apply product development	* Encourages integration of sciences, math and technical learning * Expands experiential and applied learning
* Broad understanding of industries and enterprises * Entrepreneurial attitudes and capabilities	* Encourages integration of liberal and general education with vocational education
* Youth prepared for entry level jobs * Self-discipline, reliability, respect, enthusiasm	* Requires work readiness curricula and career development * Raises basic skills requirements * Modernizes occupational programs
* Training relevant to local labor market needs	* Involves employers, postsecondary institutions, community and parents in local program planning * Modernizes occupational programs
* Occupation-specific training (especially smaller employers and rural communities)	* Promotes universal access to occupational programs * Articulates curriculum with postsecondary schools
* Alleviate labor shortages, reduce school dropout rates * Prepare increased percentages of minorities and women	* Promotes equity of access to diverse vocational opportunities
* Increased percentage of jobs requiring postsecondary training	* Articulates curriculum with postsecondary schools * Requires basic skills foundation for all graduates
* Knowledge of employment rights and options	* Establishes individual life and career planning * Requires work readiness curricula * Encourages integration with social studies
* Adaptability, ability to learn and change	* Established "the ability to make changes" as a student outcome

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2. Opportunities in Vocational Education

Some of the same pressures discouraging vocational education enrollments are leading to shortages in skilled occupations - nursing careers, machinists, agricultural technicians, clerical workers, and truck drivers, for example. Restructured vocational programs, properly articulated with postsecondary institutions and private employers' training, could help meet some labor force needs. On the other hand, some programs enroll substantial numbers of college-bound students exploring special interests or seeking employment skills to support their future education. Other programs particularly address important work performed in unpaid settings such as those designed to prepare all students to function successfully in families and other personal/community relationships. Across the board, some of the features traditionally offered by vocational education may be critical in meeting Minnesota's needs for skilled workers in diverse settings. A restructured model should bring these strengths to the fore, among them:

a. **Outcome-based course design and instruction**, now being implemented in one form throughout Minnesota's Technical Institute System. Outcome-based learning can build student success, self-confidence and motivation.

b. **Experiential, hands-on learning** that emphasizes problem-solving and application of knowledge, particularly using cooperative work-team approaches.

c. **Cooperative education**, using structured work experiences with employers. The Committee for Economic Development, a major business think tank, recommends expansion of cooperative education. The concept could include a variety of community-linked "real world" learning experiences--internships, mentoring, community service, etc.

d. **Leadership development**, an integral component of vocational education's instruction and youth organizations. Minnesota's future growth and prosperity will depend upon citizens who have visions of what could be, are creative about ways to bring it about and who are proactive about their own roles in creating a better society.

e. **Occupational skills training**, an important motivational tool for many youth who demand concrete short-term relevancy and seek employment. This educational potential is important to many smaller and rural employers who lack internal training capacity. Informed by industry needs, programs can teach flexible skills--including those that promote entrepreneurial competence.

f. **Parenting and family living preparation**, study that includes both work within the family and balancing family responsibilities with work done outside the home. Identified by the Governor as a key educational priority, parenting and family education is not only critical to the general happiness and well being of Minnesota's citizens but also positively affects the productivity of the labor force.

g. **Technology education**--the Governor's Commission on the Economic Future of Minnesota has identified a critical need for more comprehensive learning of science and technology by all students. It attributes Minnesota's above-average manufacturing growth almost entirely to technology-intensive industries.

3. Views of Students' Educational Needs

Appropriate vocational education for secondary students must include accountability for competence in basic and critical-thinking skills, work readiness, appropriateness of the training to societal needs; efficient use of resources, and access by students at risk to some avenue of learning and work preparedness. This view translates into four key principles of the restructured model: articulation, modernization, integration and equity.

The importance of families in students' lives and in Minnesota's quality of life needs to be considered seriously. In times such as these when families are facing an increasing number of serious challenges, students need help developing the knowledge and thinking skills necessary to make wise judgments and to be able carry them out. Several components of the model emphasize these priorities.

Students from families with more limited financial and educational backgrounds should have equitable access to both college preparatory courses and occupational skills courses. Lack of access to the latter could push students with those strengths and interests toward failure. Equity also means broad-based learning for occupation-oriented students, as specified in the Carl D. Perkins Vocational Education Act of 1984. It states that all students should gain not only production skills but "...experience in and understanding of all aspects of the industry in which the student is preparing to enter..," including management, finance, labor relations, etc.

In addition, all students need to learn about employment rights: discrimination laws, wage and hour laws, benefits, collective bargaining rights, etc. Understanding such concerns should be a part of the work readiness curriculum in the restructured model.

4. School and Labor Force Participation Are Both Increasing

Fifty-four percent of students from the class of 1976 were pursuing higher education in the year following high school. Ten years later 68% of the class of 1986 were enrolled in some form of post-high school education one year later.

Paradoxically, this increase in participation in higher education has accompanied increased participation in the labor force. Three-fourths (74%) of Minnesota youth are in the labor force one year following high school. Of those, 42% are in school and working or seeking employment to meet the rising costs of education. The remaining 32% are employed full-time or seeking employment and are not involved in any form of post-high school education. This means that the higher the rate of participation in post-high school education, the higher the rate of students employed or seeking employment to finance their education.

A restructured system will provide adequate occupational skills preparation to meet the needs of those students who wish to pursue either higher education or full-time employment in order to be productive citizens.

C. MODEL DEVELOPMENT PROCESS

Over two hundred people participated in the information gathering and planning processes that built the restructured model. The Assistant Commissioner of Education, Division of Development and Partnership Effectiveness and the Manager of Secondary Vocational Education guided the model development process. They worked closely with a group of key legislative staff members and representatives of the vocational and general education communities to chart directions for the program redesign.

1. What Do Minnesota Students Need and Want?

Three work group sessions were held in St. Paul in late July and early August. Organized loosely around the areas of Career Development, Work Readiness, and Occupational Skills, each group addressed the question "What do Minnesota students need and want?". The participants, professionals as well as students, drew upon their understanding of young people to develop a better appreciation of the conditions in which today's youth live and what they perceive as important in their present and future lives. Implications were drawn for providing conditions and instruction that would support student growth and learning. This input is organized into eight primary needs and wants and is reported in Part III of this report.

2. Developing Program Outcomes

Using inputs from the work groups and other information about students, schools and society, the Strategy Design Group developed a set of outcomes describing what students should have gained from the study of vocational education by the time of high school graduation. The outcomes address a broad range of student learning and experience important to living successfully and productively in our society now and in the future. They were proposed assuming a vocational education program that reflected the essential elements of the program's vision: articulation, modernization, integration, equity and curricular content refocusing. The program outcomes are reported in Part III of this report

The outcomes were distributed throughout the education community through press releases, direct mailings and at meetings of groups and organizations. Comment was elicited and recorded. The next stage of the planning process then focused upon how the outcomes could be brought about.

3. Forming Implementation Strategies

Work teams were organized to examine how 1) curriculum and instruction, 2) staffing and staff development, 3) structures and 4) funding and accountability could be designed and supported to promote the objectives of restructuring. The following questions guided the groups' work:

a. What conditions regarding curriculum, staffing, structures and funding/accountability will promote realization of the outcomes for students?

b. What is presently working well and should be supported and expanded? What needs to change or be developed?
c. What experiments might be tried to improve the possibility of achieving these goals at the local level?
d. What measurable results will indicate achievement of the goals?

4. Building an Action Plan

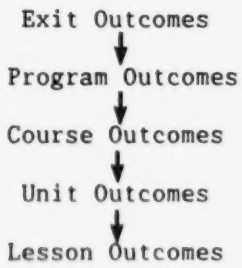
From the work teams came lists of essential characteristics of curriculum, staffing, structures and funding/accountability needed to reach the program outcomes. In addition, the teams made suggestions for programs and policies that would create and support these characteristics. Beginning ideas for indicators of success were generated.

The Strategy Design Group examined the team input and used their ideas to generate a set of priorities for legislative, state board and agency and local school district action. Proposals were divided between those that demanded immediate attention and those that needed to be integrated into a longer-term, more encompassing restructuring process. Components of the model developed through the above process are described in Parts III, IV and V of this report.

D. OUTCOME-BASED FRAMEWORK FOR MODEL DEVELOPMENT

The Outcome-Based Education (OBE) paradigm was used to guide the vocational education planning and model development process. A particular OBE approach, developed by William G. Spady[2], influenced this and other restructuring efforts being undertaken by the Legislature and Department of Education/State Board of Education. Some of the most significant characteristics of the perspective are:

1. An outcome-based design sequence. In the OBE process, exit outcomes initiate and guide all other levels of outcomes in an instructional system: program outcomes, course outcomes, unit outcomes and, ultimately, lesson outcomes. Exit outcomes describe the broad kind of knowledge, competencies and qualities we want students to be able to demonstrate when they finish high school and face the challenges and opportunities of the adult world. The design sequence appears like this:



2. A system that presumes the success of all students. After exit outcomes are developed, curriculum and instructional systems are designed. The intent is for all students to ultimately be able to demonstrate outcomes successfully. In this approach, outcomes - not the calendar - determine credit and, in turn, define what constitutes a "course" and the content needed in that course. The key issue becomes reaching the outcomes successfully, not when or how much time it takes to do it. Curriculum, instructional focus, modeling, evaluation standards and grading all closely align with the outcomes. At all times, students should know what the goals of their learning experiences are, what criteria will be used to assess their performance on those goals and where they stand in relation to each of these goals (rather than to each other).

3. Expanded opportunities for learning for all students. Working from the assumption that all students are able to achieve the outcomes, appropriate time and instructional support are provided. Since the outcomes describe what is critical to students' future success in school and in life, their mastery and the efforts necessary for this mastery are assumed to be essential. Teaching emphasizes active modeling, expecting success, intensive engagement, diagnostic assessment and frequent feedback to students about their performance. Students are given extra opportunities to learn as well as specific assistance on concepts or areas where they are having difficulty. Student mastery replaces curriculum coverage as the focus of teaching and learning.

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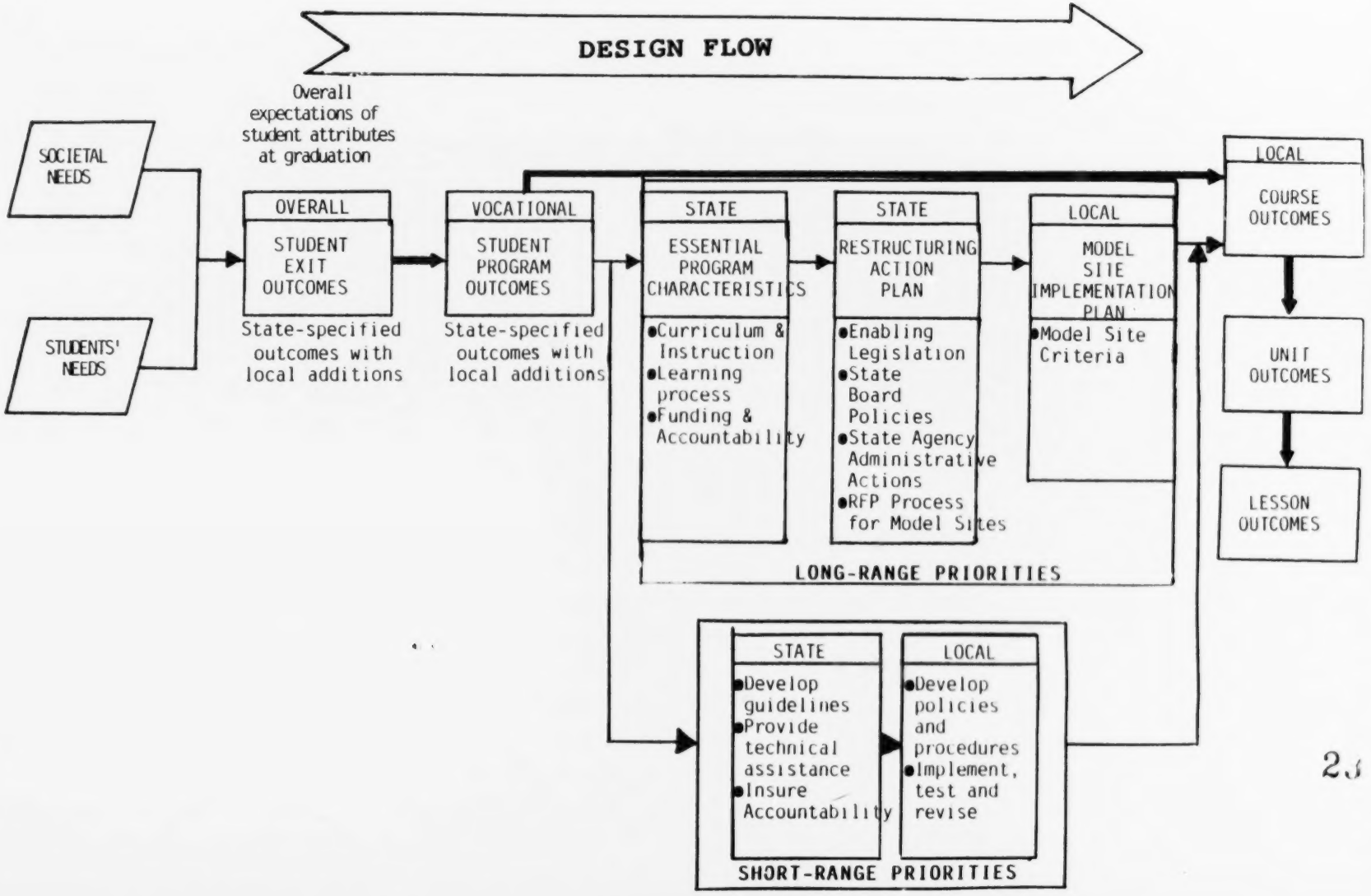
2. Spady, W.G. "Organizing for Results: The Basis of Authentic Restructuring and Reform", Educational Leadership. October, 1988.

PART III

A RESTRUCTURED MODEL FOR VOCATIONAL EDUCATION

2.

A RESTRUCTURED MODEL FOR VOCATIONAL EDUCATION



A. SOCIETY'S NEEDS

The Minnesota State Board of Education, in the interest of developing and sustaining the highest quality of life in the future, has expressed the understandings, values and vision of its people regarding the need for an enlightened, capable and compassionate citizenry. Accordingly, the Board believes that this end will be served when all citizens of the state:

1. Master the skills needed to participate in learning activities throughout their lives.

2. Accumulate and apply the knowledge and understanding needed to lead meaningful lives.

3. Develop the thinking and decision-making skills needed to resolve issues and meet needs creatively.

4. Value, understand and accept human interdependence and the diversity of humankind.

5. Develop the knowledge, skills and affect essential to address human problems through group effort.

6. Effectively resolve conflicts with and among others.

7. Act on contemporary events and issues with a perspective of their historical origins.

8. Develop a positive attitude toward self.

9. Demonstrate the ability to set and acquire personal goals and cope with change.

10. Lead healthy, fulfilling lives.

11. Develop work readiness skills that enable them to lead productive lives and actively contribute to the economic well-being of society.

B. STUDENTS' NEEDS

As Minnesota's students view their schools and contemplate the future, eight major needs emerge that must be addressed through an integrated approach to vocational education as a part of a comprehensive education. In order to be better equipped to succeed in school and in the future, Minnesota's students want:

1. Clearer visions of possible career and life-role options.

   "The future is unknown and generally worrisome. We need to have visions of what might be possible for us to be and to do."

2. Clearer connections between the school curriculum and real life.

   "We want to feel that what we study in school has meaning and relevancy for other parts of our lives, both during and after we leave school."

3. More opportunities to try new things without the threat of failure or ridicule.

   "We want to be able to 'try things out' and even fail without danger of becoming failures ourselves. We need feedback that helps us to grow and to learn."

4. Adults who treat them with care and respect.

   "We want contact with adults who offer relationships built upon mutual caring and respect - and who make us feel competent and capable."

5. Opportunities to speak freely about personal matters.

   "We need to talk about important life experiences in safe and caring settings."

6. More realistic options for what, how, when and where they learn.

   "We want options for the ways we learn and meet our special needs. Equally important, however, we need support and assistance in working into the unfamiliar settings in which these options may be found."

7. Approaches to think well and make sound choices.

   "We need help developing effective ways to consider the many choices open to us and to make wise decisions about what to do."

8. Important foundational and specialized skills for work and family roles.

   "We need to learn some specific skills that allow us to do something or some things especially well that other people value."

C. EXIT OUTCOMES

Given the importance of these societal and student needs and the over-riding principles of articulation, modernization, integration, and equity that guide this reform effort, it is essential that Minnesota's schools in the primary, secondary and postsecondary levels develop programs, employ personnel and structure learning opportunities that enable all students to:

1. Develop and demonstrate the knowledge and competence necessary for achievement and fulfillment in both career-related and life-role pursuits.

2. Reason through a variety of potential career and life-role futures for themselves, based on the likely challenges, prerequisites, and opportunities implied in each.

3. Draw directly from their formal schooling to develop and accomplish learning goals that support their career and life-role success and fulfillment.

4. Establish and sustain personal, family, community and work relationships based on respect and a sense of mutual responsibility.

5. Recognize the diverse ways and conditions under which they can best learn and address problems, and apply these approaches throughout their lives.

6. Exercise the confidence, compassion and skills needed to collaborate with others different from themselves in successfully setting common goals, considering alternative actions and assessing probable outcomes.

7. Stay abreast of contemporary trends and developments, and use historical information to anticipate and guide needed changes.

D. PROGRAM OUTCOMES

Considering the preceding societal and student needs and exit outcomes for students in Minnesota's schools, the following outcomes are proposed for K-12 vocational education programs:

1. Students will identify and value their particular vocational interests and strengths.

2. Students will identify occupations where their interests and strengths can be utilized and developed to achieve success.

3. Students will establish educational goals that lead to the development of their vocational interests and strengths.

4. Students will acquire basic and technical skills necessary to enter and succeed in subsequent stages of lifelong learning, including further education, employment, community participation and family living.

5. Students will demonstrate the relevance of their school learning through a variety of applications and be able to transfer and use that learning appropriately in their work and family lives.

6. Students will exhibit connectedness (interrelatedness and interdependence) and responsibility for others in their families, communities and workplace.

7. Students will have the knowledge, skills and attitudes to function successfully in work relationships.

8. Students will comprehend and value different kinds of work.

9. Students will be able to manage their work and family responsibilities.

10. Students will be able to make changes and address challenges in varied and nontraditional ways.

11. Students will know how to access a variety of educational and societal resources, displaying the confidence to do so.

12. Students will make sound decisions confidently and address problems effectively by draving from guided experiences.

13. Students will know and use a full range of communication skills.

14. Students will know and exercise fundamental human rights, e.g., to question society, to promote change, to preserve the status quo.

15. Students will acknowledge that they are part of a larger system, encompassing local, national and global communities.

E. ESSENTIAL PROGRAM CHARACTERISTICS

In order to attain these exit and program outcomes, the following essential characteristics are proposed for curriculum and instruction, the learning process and program funding and accountability.

1. Essential Characteristics of Curriculum and Instruction that Address Outcomes

   a. Curriculum Development Process: the priorities and processes used to guide the determination of what, when and to what extent students are to learn

      * Is driven explicitly by state exit and program outcomes.
      * Involves school, community, student and higher education partnerships in planning.
      * Includes K-12 scope and continuous articulation.
      * Allows for unique learner needs and interests.
      * Reflects continuous review of relevancy to changing social and economic conditions

   b. Curriculum Content: the processes and subject matter that form the program of study

      * Is closely aligned with state exit and program outcomes.
      * Emphasizes problem solving and complex decision-making throughout the curriculum.
      * Encourages learning by doing as well as learning by studying.
      * Explicitly integrates technical skills, career development, work readiness, preparation for family roles and technology education into the curriculum.
      * Promotes richer understandings of the nature and quality of work and family living.
      * Encourages life planning with emphasis on work and family responsibilities.
      * Focuses on helping students make judgments about important life choices.
      * Is student driven rather than determined by disciplines or other forces.

   c. Curriculum Structure: the ways programs of study are organized and delivered

      * Reinforces essential skills and outcomes in all curriculum areas
      * Creates a K-12 continuum for essential skills and outcomes.
      * Avoids segregated curriculum tracks.
      * Links schools with other educational systems.
      * Provides legitimate learning settings outside the school.
      * Offers variable-length courses, access times, schedules and examination times.
      * Employs cross-discipline experiences to achieve student outcomes.

2. Essential Characteristics of the Learning Process that Address Outcomes

a. Learning Environment: the nature and quality of the setting in which learning takes place

* Promotes all aspects of state exit and program outcomes.
* Recognizes individual differences and strengths in all students.
* Redefines student and teacher roles to promote student initiative and leadership.
* Enhances students' sense of worth, competence and ethical orientation.
* Centers around a problem-oriented learning process.
* Provides opportunities for transference and application of learning.
* Rewards creative and nonverbal expression.
* Relates learning to students' lives now and in the future.
* Promotes openness to alternatives and many life options.
* Provides support for transitions to "next steps" and learning alternatives.
* Builds communities in which participants can learn from one another.
* Uses individual assessment of students' progress toward outcomes and opportunities to continue improvement.
* Provides a safe setting in which learning by trying is encouraged.

b. Staff Members: the diversity, qualities and credentials of adults who guide student learning

* Reflect the exit and program outcomes in their own orientations and actions.
* Involve a number of different adults in students' education.
* Are sensitive to student needs and see opportunities in their differences.
* Stay abreast of continuing advances and opportunities in their field and have a plan for continuing professional growth.
* Possess and reflectively use sound pedagogical knowledge and skills.
* Demonstrate leadership and community relations skills.
* Have had successful experiences in the world of work and family life and have theory-grounded ways for thinking about that experience.
* Develop the characteristics of curriculum and learning environments considered essential to the restructured model.

3. Essential Characteristics of Program Funding and Accountability

a. Funding: means by which school districts fund programs

* Recognizes all costs attributed to instruction to reinforce essential skills and outcomes.
* Provides incentives for program improvement and staff development.
* Is responsive to local conditions and concerns for educational equity.

b. Financial Accountability: the tracking of financial transactions and procedures through approved auditing processes

* Allows random auditing of LEA by the state to ensure accountability for funding processes.
* Encourages local annual auditing by state approved auditing firms.

c. Program Accountability: the determinants of success of program implementation and responsibility

* Is measured by exit and program outcomes.
* Is assessed by equity in access, treatment and outcomes.
* Uses random auditing of the LEA by the state to ensure accountability for program outcomes.
* Encourages local programs to conduct annual self-evaluation.
* Develops and implements an evaluation process in three phases:

Phase One: All programs and services will be assessed to determine the extent to which each program outcome of the restructured model is achieved. This phase will be complete and operationalized in time to evaluate pilot sites.

Phase Two: All districts will be provided a self-help system based on Phase One assessment to help them identify changes necessary to achieve desired outcomes.

Phase Three: Highly skilled external evaluators will be available upon request to conduct an analysis of the local school culture and help create a positive environment and constructive plan for improvement.

PART IV

ACTION PLAN

ACTION PLAN

Section four outlines the policy changes necessary to enable local education agencies to implement the restructured model. Some of these policy changes need to be acted upon by the State Legislature while others require adoption by state-level boards and agencies. The proposed changes are designed to remove barriers, provide guidelines and direction, and assure resources and incentives. The conditions described as "Necessary Changes" are considered essential for successful implementation of the restructured vocational education model.

ACTION PLAN FOR LEGISLATIVE AND STATE BOARD POLICY CHANGES

NECESSARY CHANGES	LEGISLATIVE ACTION	STATE BOARD/AGENCY ACTION
1. **OUTCOME-BASED PROGRAMS** Outcome-based education opens the opportunity for students to: • develop an individualized plan for reaching their career goals, • select and/or design experiences with particular learning opportunities, • pace themselves according to their own learning rate (moving on when outcomes are accomplished (and) • be assessed by an accountability (evaluation) process that is directly oriented to these outcomes. • apply academic learning.	• Legislature authorize exit outcomes • Legislature establish state authority for program outcomes and the means of measurement for accountability.	State Board of Education: • Amend existing General or Vocational Rules • Necessary consideration when future rules are promulgated • Accept the state authorization for program outcomes • Review appropriateness of separate General or Vocational Rules and amend where needed to insure integration.
2. **CURRICULAR EMPHASIS** Program characteristics must explicitly address technical skills, career development, work readiness, preparation for family roles and technology education.		State Board of Education • Amend existing vocational rules • Review appropriateness of separate General or Vocational Rules and amend where needed to insure integration. State Board of Teaching • Licensure provisions amended

NECESSARY CHANGES	LEGISLATIVE ACTION	STATE BOARD/AGENCY ACTION
3. **EXPANDED LEARNING OPPORTUNITIES** A student's vocational planning process and educational program are enriched by community-wide resources including a number of different adults and diverse settings for learning.	Amend legislation pertaining to Carnegie Unit basis for credit and community services. Establish legislative directive to State Board of Education and State Board of Teaching to grant licensure waivers.	State Board of Education • Amend existing General or Vocational Education Rules • Review appropriateness of separate General or Vocational Rules and amend where needed to insure integration. State Board of Teaching • Licensure waiver • Directives to teacher training institutions
4. **DIVERSE DELIVERY SYSTEMS** Students must be able to access a variety of systems (i.e. vocational cooperative centers, educational districts, postsecondary options, open enrollment, pairing, comprehensive high school, interactive TV, team teaching, peer teaching, and others) in order to meet their exit outcomes.	Amend transportation aids	
5. **FLEXIBLE AND EXPANDED PERIODS** Instructional periods and annual schedules are made flexible to meet needs of individual learning plans, making possible more periods, courses throughout the day and evening, courses throughout the year, and variable time periods to achieve learner outcomes.	Legislative amendments of statutes that prescribe the length of the school day to allow for instructional flexibility.	State Board of Education • Necessary consideration when future rules are promulgated
6. **TRANSITIONS BETWEEN SYSTEMS** Articulation between sectors of education is provided so that students are able to: 1) transfer; 2) test out; or 3) obtain credit toward postsecondary programs.		State Board of Education • Amend existing General or Vocational Education Rule • Review appropriateness of separate General or Vocational Rules and amend where needed to insure integration.

3

NECESSARY CHANGES	LEGISLATIVE ACTION	STATE BOARD/AGENCY ACTION
7. **MAXIMUM USE OF DIFFERENT PROGRAM AREAS** The strengths and quality of different course areas (both vocational and general) are recognized and developed so that students are able to integrate theory with application and select the variety and sequence of learning experiences needed to achieve their individual goals.		State Board of Education State Board of Teaching • Amend existing General or Vocational Education rules • Necessary consideration when future rules are promulgated • Review appropriateness of separate General or Vocational Rules and amend where needed to insure integration.
8. **STATE LEADERSHIP** State leadership is provided in designated priority areas to: establish guidelines and support for change; encourage research on new models and other areas of restructuring; offer incentives and technical assistance; and develop models and resources for state initiatives.	Legislature will direct the M.D.E. to address priority areas and authorize funds for its completion	
9. **STAFF DEVELOPMENT** Teachers, counselors, and administrators are given a variety of compensated opportunities to address professional development plans to master the diverse knowledge and skills demanded of them including, but not limited to: industry and other work experiences, parenting/nurturing support, career development background, and leadership and community relations.	Amend staff development legislation	State Board of Education State Board of Teaching • Licensure provisions amended

PART V

IMPLEMENTATION PROCESSES

In order to phase in the effective components of the restructured model in an orderly manner, a process will need to be initiated to enable the present secondary vocational programs to continue to grow and improve. Present categorical funding should be continued for districts providing approved secondary vocational opportunities through the restructuring process. The implementation process for restructuring secondary vocational education will involve the following steps: 1) develop the Minnesota Department of Education short-range priority list for vocational programs in transition and 2) develop Minnesota Department of Education long-range priority list for restructured model sites. The funding needed to support, initiate, plan, develop and monitor this restructuring process has been identified as the Five-Year Implementation Plan (see table).

A. MINNESOTA DEPARTMENT OF EDUCATION SHORT-RANGE PRIORITIES FOR VOCATIONAL PROGRAMS IN TRANSITION

Priority One:

1. Conduct regional review of present vocational education curriculum using principles of modernization (i.e., cooperative work methods, entrepreneurship), integration (i.e., basic skills, higher order thinking skills), articulation and equity.

2. Develop and test guidelines for a basic curricular structure to include definition of cluster areas, core courses, specialization components with cluster outcomes.

3. Develop and test procedures and policies for evaluating the exit and program outcomes.

4. Develop and implement a dissemination plan for the model restructuring process.

5. Develop and implement policies to upgrade current vocational opportunities while the restructuring is taking place.

Priority Two:

1. Develop and test procedures and policies to strengthen career guidance services; including implementation of vocational career plan for all students.

2. Develop curriculum guide for career exploration course for grades 7-8 that will assist in developing vocational career development plans.

3. Develop and test procedures and policies to revitalize the current advisory committee for vocational education.

4. Develop and implement staff development activities to prepare teachers, administrators and other support staff for implementation of restructured model of vocational education.

5. Develop and test policies and procedures to improve articulation of secondary and postsecondary vocational and technical education.

Priority Three:

1. Develop and test procedures and policies to provide quality internship, work experience and/or community service experience for all students who want and need them.

2. Develop and test procedures and policies by which vocational educators along with others can facilitate the implementation of work readiness for all students in all areas of curriculum, pre-K - 12.

3. Provide technical assistance for the development and pilot testing of ways of meeting program outcomes in nontraditional time arrangements and using nontraditional delivery systems.

4. Provide technical assistance for the development and testing of policies and procedures to improve articulation of elementary and secondary education as it relates to program outcomes.

B. MINNESOTA DEPARTMENT OF EDUCATION LONG-RANGE PRIORITIES FOR RESTRUCTURED MODEL SITES

Priority One:

1. Ensure that all model sites implement a program to meet exit outcomes and program outcomes.

2. Provide assistance in the development of nontraditional structures for school days, course length, delivery modes, etc. (to increase access and quality).

3. Conduct complete staff development program.

4. Develop articulation agreements with feeder elementary schools, alternative secondary schools and recipient postsecondary institutions (to increase articulation).

5. Review teacher and other staff licensure requirements to facilitate implementation of restructured model of vocational education.

Priority Two:

1. Issue guidelines for vocational career plan for all students.

2. Promote expansion of access to internships, work experiences, and community service learning opportunities.

3. Provide technical assistance for the development of experiential components to vocational education.

C. FIVE-YEAR IMPLEMENTATION PLAN

Excess cost formula to fund model and non-model sites on an ongoing basis.

FY 1989

State Level
(Addressing Short and Long Range Priorities)

- Restructuring proposal to legislature
- Criteria for model sites developed

FY 1990

State Level
(Addressing Short and Long Range Priorities)

- Request for proposals from LEA
- Selection of model sites
- Develop key activity and curriculum guides ⟶ $ 250,000
- Dissemination activities ⟶ 100,000
- Evaluation & accountability ⟶ 50,000
- Staff development ⟶ 100,000

$ 500,000

Local Level
(Addressing Short and Long Range Priorities)

- Submit proposals to be model site
- Group A selected: 5 sites ⟶ $ 250,000
  - Planning for implementation

Total: $ 750,000 plus excess cost formula

FY 1991

State Level
(Addressing Short and Long Range Priorities)

- Request for proposals from LEA
- Selection of model sites
- Revise curriculum guides ⟶ $ 100,000
- Dissemination activities ⟶ 50,000
- Evaluation & accountability ⟶ 200,000
- Staff development ⟶ 100,000

$ 450,000

Local Level
(Addressing Short and Long Range Priorities)

- Submit proposals to be model site
- Group A: Model implementation
  - Operated on excess cost formula
- Group B: 10 sites selected
  - Planning for implementation → $ 300,000

Total: $ 750,000 plus excess cost formula

FIVE-YEAR IMPLEMENTATION PLAN

FY 1992

State Level
(Addressing Short and Long Range Priorities)

- Request for proposals from LEA
- Selection of model sites
- Revise curriculum guides → $ 50,000
- Dissemination activities → 25,000
- Evaluation & accountability → 200,000
- Staff development → 200,000

$ 475,000

Local Level
(Addressing Short and Long Range Priorities)

- Submit proposals to be model site
- Group A: Revision of model
  - Operated on excess cost formula
- Group B: Model implementation
  - Operated on excess cost formula
- Group C: 30 sites selected → $ 750,000
  - Planning implementation

Total: $1,225,000 plus excess cost formula

FY 1993

State Level
(Addressing Short and Long Range Priorities)

- Request for proposals from LEA
- Selection of model sites
- Revise curriculum guides → $ 50,000
- Dissemination activities → 25,000
- Evaluation & accountability → 200,000
- Staff development → 200,000

$ 475,000

Local Level
(Addressing Short and Long Range Priorities)

- Submit proposals to be model site
- Group A: Revise model
  - Operated on excess cost formula
- Group B: Revise model
  - Operated on excess cost formula
- Group C: Model implementation
  - Operated on excess cost formula
- Group D: 30 sites selected
  - Planning for implementation → $ 750,000

Total: $1,225,000 plus excess cost formula

FY 1994

State Level
(Addressing Short and Long Range Priorities)

- Request for proposals from LEA
- Selection of model sites
- Revise curriculum guides ⟶ $ 50,000
- Dissemination activities ⟶ 25,000
- Evaluation & accountability ⟶ 200,000
- Staff development ⟶ 300,000

$ 575,000

Local Level
(Addressing Short and Long Range Priorities)

- Group A: Revise model
  - Operated on excess cost formula
- Group B: Revise model
  - Operated on excess cost formula
- Group C: Revise model
  - Operated on excess cost formula
- Group D: Model implementation
  - Operated on excess cost formula

Total: $ 575,000 plus excess cost formula

D. PROPOSED CRITERIA FOR SELECTING MODEL SITES

1. All model sites will address the exit outcomes.

2. All model sites must adhere to essential program characteristics identified in Part III, with a time-line for their implementation.

3. All model sites should incorporate the over-riding principles of articulation, modernization, integration and equity, as well as the curricular content principles of career development, work readiness, preparation for family roles, application of technology, and access to occupational skills development.

4. All model sites will develop programs that include a process to reflect integration with community by involvement with parents, business and employers.

5. All model sites will offer interdisciplinary instruction across subject areas not just vocational areas.

6. All students will develop vocational career plans.

7. All model sites will develop articulation with elementary programs as well as with postsecondary programs.

8. Model sites should be selected with a preference, but not a requirement, for distribution by:

   - urban, suburban, rural
   - a mix of cooperative centers, comprehensive high schools, postsecondary access or other multi-district approaches (cooperative centers should demonstrate integration/articulation with participating districts' programs)

   The model should be tested in at least one or two sites that are "starting from scratch," and not only at sites that are already well along in implementing parts of the model.